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EXAMINER

NGUYEN, DAVID Q

ART UNIT

PAPER NUMBER

2681

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16

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/618,296

Applicant(s)

COLLIER ET AL.

Examiner

David Q Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19,39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10 and 1. 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The Declaration filed on 4/24/03 under 37 CFR 1.131 has been considered but is ineffective to overcome the Martin et al. (US Patent Number 5686864) reference.

The evidence submitted is insufficient to establish diligence from a date prior to the date of reduction to practice of the Martin et al. (US Patent Number 5686864) reference to either a constructive reduction to practice or an actual reduction to practice. In the declaration, Applicants states that "the draft patent application presented in Exhibit A establishes conception of the invention in Great Britain prior to April 2, 1999, after which the above referenced application was prepared with due diligence and diligently filed in the United Kingdom on July 19, 1999 as application No. 9916907.0." However, it is insufficient to establish due diligence.

Response to Arguments

2. Applicants amended 1-19 and added claim 39. Claims 1-19 and 39 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. Claim 39 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

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Claim 39 contains the subject matter “the trimming capacitances are each selectively connectable *in series with each other*”. The specification and drawing of Exhibit A submitted on 4/24/03 are described and showed that “the trimming capacitances are each *selectively connectable with each other in parallel*”. Therefore, claim 39 is rejected.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Endo et al. (US Patent Number 6172576).

Regarding claim 1, Endo show a variable frequency oscillator comprising an oscillatory circuit for generating a periodic output dependant on the capacitance between a first node and a second node of the circuit, and having a capacitive element connected between the first node and the second node, the capacitive element comprising: a variable capacitance unit, the

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capacitance of which is variable for varying the frequency of the output; a plurality of trimming capacitances each being selectively connectable in parallel with the variable capacitance unit between the first node and the second node to trim the frequency of the output (see fig. 8)

Regarding claim 2, Endo also show a variable frequency oscillator disclose the trimming capacitances are each selectively connectable between the first node and the second node (see fig. 8).

Regarding claim 3, Endo also show the trimming capacitances are each selectively connectable in parallel with each other (see fig. 8).

Regarding claim 4, Endo also show a switch is connected in series with each trimming capacitance between the first node and the second node for selectively connecting the respective trimming capacitance between the first node and the second node in response to a respective switching signal (see fig. 8).

Regarding claim 5, Endo also show each switch is a switching transistor (see col. 11, lines 26-28; fig. 4 and fig. 8)

Regarding claim 6, Endo also show a variable oscillator as claimed comprising control apparatus for causing a set of the trimming capacitances to be connected between the first node and the second node (see fig. 2).

Regarding claim 7, Endo also show the control apparatus is capable of generating the said switching signal (see col. 14, lines 39-50; fig. 2).

Regarding claim 8, Endo also show the variable oscillator comprising a memory coupled to the control apparatus for storing information defining one or more sets of the trimming capacitances (see fig. 2).

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Regarding claims 9-10, Endo also show wherein each of the said one or more sets corresponds to a respective operating frequency of the oscillator; and wherein the control apparatus is capable of retrieving from the memory information defining a set of the trimming capacitances and causing that set of the trimming capacitances and causing that set of the trimming capacitances to be connected between the first node and the second node (see col. 14, lines 39-55; fig. 2)

Regarding claim 11, Endo also show a variable oscillator as claimed comprising at least one of the trimming capacitances has a different capacitance value from another of the trimming capacitances (see col. 21, lines 37-53).

Regarding claim 12, Endo also show the capacitance of the variable capacitance unit is variable by mean of the voltage applied to a variable capacitance input (see col. 21, lines 37-53).

Regarding claims 13 and 14, Endo also show a variable oscillator as claimed comprising feedback apparatus connected between the output and the variable capacitance input for establishing the oscillator, and the feedback apparatus is a phase-locked loop (see fig. 2 and abstract).

Regarding claim 15, Endo also show shows the variable capacitance unit is a variable capacitance diode (see page 30, lines 41-45; fig. 8).

Regarding claim 16, Endo also show a radio terminal comprising a variable oscillator (see abstract).

Regarding claim 17, Endo also show a method for operating a variable frequency oscillator, the method comprising retrieving from the memory information defining a set of the trimming capacitances; connecting that set of the trimming capacitances between the first node

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and the second node; comparing the voltage at the variable capacitance input with a first preset voltage range; and if that voltage is outside the first preset voltage range determining, based on the voltage at the variable capacitance input, an adjusted set of the trimming capacitances and storing in the memory information defining that adjusted set of the trimming capacitances (see col. 14, lines 39-67; fig. 2).

Regarding claim 18, Endo also show the step of determining performed only if the voltage at the variable capacitance input is inside a second preset voltage range (see col. 14, lines 39-67; col. 15, lines 1-29).

Regarding claim 19, Endo also show the information defining the adjusted set of the trimming capacitances stored so as to replace in the memory the said information defining a set of the trimming capacitances (see col. 14, lines 39-67; fig. 2).

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1,3-6,11-16 are rejected under 35 U. S. C. 102(b) as being anticipated by Martin et al. (US Patent Number 5686864).

Regarding claim 1, Martin et al show a variable frequency oscillator comprising an oscillatory circuit for generating a periodic output dependant on the capacitance between a first node and a second node of the circuit (see fig. 6 and abstract), and having a capacitive element

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connected between the first node and the second node, the capacitive element comprising: a variable capacitance unit (see fig. 6; 608), the capacitance of which is variable for varying the frequency of the output; a plurality of trimming capacitances each being selectively connectable to the variable capacitance unit to trim the frequency of the output (see fig. 6; 606)

Regarding claim 3, Martin et al show wherein the trimming capacitances are each selectively connectable in parallel with each other (see fig. 6).

Regarding claim 4, Martin et al show a switch is connected in series with each trimming capacitance for selectively connecting the respective trimming capacitance to the variable capacitance unit in response to a respective switching signal (see fig. 6).

Regarding claim 5, Martin et al show each switch is a switching transistor (see fig. 6)

Regarding claim 6, Martin et al show a control apparatus for causing a set of the trimming capacitances to be connected to the variable capacitance unit (see fig. 5, 114).

Regarding claim 11, Martin et al also shows wherein at least one of the trimming capacitances has a different capacitance value from another of the trimming capacitances (see fig. 6).

Regarding claim 12, Martin et al also shows the capacitance of the variable capacitance unit is variable by mean of a voltage applied to a variable capacitance input (see fig. 6).

Regarding claims 13 and 14, Martin et al also show feedback apparatus connected between the output and the variable capacitance input for establishing the oscillator, and the feedback apparatus is a phase-locked loop (see fig. 1).

Regarding claim 15, Martin et al also shows the variable capacitance unit is a variable capacitance diode (see fig. 6; 608).

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Regarding claim 16, Martin et al also shows a radio terminal comprising a variable oscillator (see fig. 7; and col. 6, lines 9-20).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. (US Patent Number 5686864).

Regarding claim 7, Martin et al show a variable frequency oscillator comprising all of the limitations as claimed in claim 6. Martin et al are silent to disclose the control apparatus is capable of generating the switching signal. However, Martin et al disclose switch transistors connected to the trimming capacitors (see fig. 6). It is apparent that there is a control apparatus capable of generating the switch signal. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of Martin et al in order to be able to switch from one of trimming capacitance to another one.

Regarding claim 8, Martin et al show a variable frequency oscillator comprising all of the limitations as claimed in claim 6. Martin et al are silent to disclose the variable oscillator

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comprising a memory coupled to the control apparatus for storing information defining one or more sets of the trimming capacitances. However, it would have been obvious to one of ordinary skill in the art at the time that the variable oscillator comprising a memory coupled to the control apparatus for storing information defining one or more sets of the trimming capacitances in order to be able to make selection of trimming capacitances. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of Martin et al in order to be able to switch from one of trimming capacitance to another one.

Regarding claims 9-10, Martin et al show a variable frequency oscillator comprising all of the limitations as claimed. Martin et al are silent to disclose wherein each of the said one or more sets corresponds to a respective operating frequency of the oscillator; and wherein the control apparatus is capable of retrieving from the memory information defining a set of the trimming capacitances and causing each of the trimming capacitance within that set of the trimming capacitances to be connected to the variable capacitance unit. However, it would have been obvious to one of ordinary skill in the art at the time that wherein each of the said one or more sets corresponds to a respective operating frequency of the oscillator; and wherein the control apparatus is capable of retrieving from the memory information defining a set of the trimming capacitances and causing each of the trimming capacitance within that set of the trimming capacitances to be connected to the variable capacitance unit in order to be able to make selection of trimming capacitances. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of Martin et al in order to be able to switch from one of trimming capacitance to another one.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Q Nguyen whose telephone number is 7036054254. The examiner can normally be reached on 8:30AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on 703-305-4778. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-9508 for regular communications and 703-305-9508 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

DN


NGUYENT.VO
PRIMARY EXAMINER

6/30/2003